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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/846,058	04/30/2001	Jay K.. Bass	10004190-1	4485

7590 07/18/2006

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EXAMINER	
EPPERSON, JON D	

ART UNIT	PAPER NUMBER
1639	

DATE MAILED: 07/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/846,058	BASS ET AL.	
	Examiner	Art Unit	
	Jon D. Epperson	1639	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 March 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *28,29,31,35 and 37-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *28,29,31,35 and 37-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. *7/6 and 7/9/06* .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Status of the Application

1. The Response filed March 27, 2006 is acknowledged.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior office action.

3. Please note that new rejections below were not entirely necessitated by Applicants' amendments and, as a result, this action is made non-final. In addition, any previous indication of allowability is hereby withdrawn in view of the newly cited art (see below).

Status of the Claims

4. Claims 28, 29, 31, 35 and 37-45 were pending. Applicants amended claims 28 and 45. No claims were added or canceled. Therefore, Claims 28, 29, 31, 35 and 37-45 are examined on the merits.

Withdrawn Objections/Rejections

5. All rejections are withdrawn in view of Applicants' arguments and/or amendments (e.g., see amendments to claims 28 and 45; see also arguments on page 7 and 8 of 3/27/06 response).

New Rejections

Claim Rejections - 35 USC § 112, second paragraph

6. Claim 28 and 45 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. For **claims 28 and 45**, the phrase "comprising the height uniformity of a first direction and a second direction across a planar surface of a substrate to identify" is vague and indefinite. For example, it is not clear how a person of skill in the art can compare the height uniformity of an abstract "direction" as opposed to a more tangible object like a substrate? Therefore, claims 28, 45 and all dependent claims are rejected under 35 U.S.C. 112, second paragraph.

Claim Rejections - 35 USC § 112, first paragraph

7. Claims 28, 29, 31, 35 and 37-45 are rejected under 35 USC 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant is directed to the Guidelines for the Examination of Patent Applications Under the 35 USC 112, ¶ 1 "Written Description" Requirement, Federal Register, Vol. 66, No. 4 pages 1099-1111, Friday January 5, 2001. This is a written description rejection.

Applicant's claims are directed to a broad genus of methods for fabricating arrays

with different chemical moieties. All the methods employ the use of a substrate. However, the specification and claims do not place any limit on the number of atoms, the types of atoms, or the manner in which said atoms might be connected to form said substrate. Thus, the claims encompass the use of virtually an infinite number of substrates (e.g., see claim 28; see also specification, page 21, line 20, "The substrates may be fabricated from any of a variety of materials"). In addition, the methods encompass substrates that do not possess a first direction that has higher height uniformity than a second direction as required by independent claims 28, 37, 38 and 45. For example, the claims encompass the use of substrates with "random" topology (e.g., see Smith, B. G. "Geometrical Shadowing of a Random Rough Surface" IEEE Transactions on Antennas and Propagation 1967, 5, 668-671; see also Bromberg, L. "Properties of Aqueous Solutions and Gels of Poly(ethylene oxide)-b-poly(propylene oxide)-b-poly(ethylene oxide)-g-poly(acrylic acid)" *J. Phys. Chem. B* **1998**, *102*, 10736-10744 wherein pluronic gels are formed by random hydrophobic interactions) that would not be amendable to current process because the comparison would not produce a definitive result (i.e., a direction with higher height uniformity). In addition, Applicants' claims encompass substrates that likewise cannot possess a first direction that has higher height uniformity than a second direction planar to said substrate. For example, the claims encompass spherical substrates (e.g., see also specification, page 9, lines 29 and 30, "Similarly, substrate 10 may be of any shape"; see also specification, page 21, paragraph 1) that possess tangential planar surfaces that would not foster a comparison of height uniformity because any comparison of said directions would only provide

information with regard to the same point on the substrate (i.e., the point at which the plane touches the sphere). Furthermore, Applicants' claims encompass many substrates that cannot be "drawn" into shapes that possesses height uniformity because these materials are either too brittle or would react with other materials at the melting temperature required for fabrication (e.g., see Donald, I. W. "Production, properties and applications of microwire and related products" *J. Mater. Sci.* **1987**, *22*, 2661-2679, see especially, page 2665, section 2.1.2.3). Finally, no structural limitations are placed on the "chemical moieties" that are used to form the array either. Thus, virtually an infinite number of chemical moieties are also being claimed wherein no structural features and/or common structural characteristics are set forth (e.g., see Lauf et al., page 1, paragraph 4, "The preparation of new materials with novel and useful chemical and/or physical properties is at best unpredictable considering current levels of understanding. Consequently, the discovery of new materials depends largely on the ability to synthesize and analyze new compounds. Given approximately 100 elements in the periodic table, which can be used to make compositions consisting of three, four, five, six or more elements, the universe of possible new compounds remains largely unexplored.").

In contrast, Applicant's specification sets forth only one working example of a substrate with higher height uniformity in one direction than in another (e.g., see specification, page 3, paragraph 2; see also figures 6 and 7 wherein a planar glass substrate that was drawn in the molten state through a thin slot is set forth). Although the Applicants mention several other species that might be possible (e.g., see specification, page 21, paragraph 2 wherein both flexible and non-flexible materials are set forth

including nylon, nitrocellulose, polypropylene, etc.), there is no evidence that any of these substrates were ever made and/or tested. Furthermore, there is no evidence presented that would suggest that any or all of the materials would likewise be amendable to a rolling process (like the one set forth for the drawn glass) that would impart a higher height uniformity. In addition, Applicants do not set forth any working examples of a chemical moiety. Although the specification sets forth several potential species (e.g., biopolymers such as carbohydrates, see specification, page 6, last paragraph) and cite several references such as Ser. No. 09/302898 for "Polynucleotide Array Fabrication", there is no evidence that any of these chemical moieties were ever used in accordance with the claimed method. Thus, Applicants have not even set forth a single working example of the claimed method when the chemical entities are taken into account (i.e., no quid pro quo here).

To satisfy the written description requirement, an applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the claimed invention (e.g., see *In re Edwards*, 568 F.2d 1349, 1351-52, 196 USPQ 465, 467 (CCPA 1978); see also see also *Vas-Cath Inc. v. Mahurkar*, 19 USPQ2d 1111 (CAFC 1991)). The "written description" requirement may be satisfied by using "such descriptive means as words, structures, figures, diagrams formulas, etc., that fully set forth the claimed invention" (e.g., see *Lockwood*, 107 F.3d at 1572, 41 USPQ2d at 1966). In the present case, Applicants have not set forth even a single working example of the present invention. In addition, when there is *substantial variation within the genus*, one must describe a sufficient variety of species to reflect the variation within

the genus (e.g., see MPEP § 2163.05). Here, the variation within the genus would be enormous because the nature of the claimed methods would depend on the nature of the substrates employed, which are virtually limitless. Furthermore, the vast numbers of substrates do not share any common attributes that would allow a person of skill in the art to extrapolate Applicants' limited species to he vast number of currently claimed substrates. Thus, the general knowledge and level of skill in the art do not supplement the omitted description because no known structure/function relationship and/or chemical properties exists that could otherwise be used to show possession of the enormous genus. In addition, there is no known generally accepted method for producing this wide array of substrates. Thus, the claims fail to satisfy the constitutional requisite of promoting the progress of science and the useful arts since this seeks to monopolize all possible ways to achieve a given result (i.e., all substrates), far beyond those means actually discovered or contemplated by the inventor (i.e., molten glass drawn into a flat rectangular shape), so that others would have no incentive thereafter to explore a field already fully dominated. *O'Reilly v. Morse*, 15 How. 62, *In re Fuetterer*, 50 CCPA 1453, 1963 C.D. 620, 795 O.G. 783, 319 F.2d 259, 138 USPQ 217; *Siegel v. Watson*, 105 U.S. Appl. D.C. 344, 1959 C.D. 107, 742 O.G 863, 267 F.2d 621, 121 USPQ 119.

8. Claims 28, 29, 31, 35 and 37-45 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for forming an array of oligonucleotides on a rectangular substrate of drawn glass, does not reasonably provide enablement for methods that will lead to the production of "any" chemical moiety on "any" substrate surface. The

specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

There are many factors to be considered when determining whether there is sufficient evidence to support a determination that a disclosure does not satisfy the enablement requirement and whether any necessary experimentation is "undue". Some of these factors may include, but are not limited to:

(1) the breadth of the claims;
(2) the nature of the invention;
(3) the state of the prior art;
(4) the level of one of ordinary skill;
(5) the level of predictability in the art;
(6) the amount of direction provided by the inventor;
(7) the existence of working examples; and
(8) the quantity of experimentation needed to make or use the invention based on the content of the disclosure.

See *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988).

(1-2) The breadth of the claims and the nature of the invention: Applicant's claims are directed to a broad genus of methods for fabricating arrays with different chemical moieties. All the methods employ the use of a substrate. However, the specification and claims do not place any limit on the number of atoms, the types of atoms, or the manner in which said atoms might be connected to form said substrate. Thus, the claims encompass the use of virtually an infinite number of substrates (e.g., see claim 28; see also specification, page 21, line 20, "The substrates may be fabricated from any of a variety of materials"). In addition, the methods encompass substrates that do not possess a first direction that has higher height uniformity than a second direction as required by independent claims 28, 37, 38 and 45. For example, the claims encompass the use of

substrates with "random" topology (e.g., see Smith, B. G. "Geometrical Shadowing of a Random Rough Surface" IEEE Transactions on Antennas and Propagation 1967, 5, 668-671; see also Bromberg, L. "Properties of Aqueous Solutions and Gels of Poly(ethylene oxide)-b-poly(propylene oxide)-b-poly(ethylene oxide)-g-poly(acrylic acid)" *J. Phys. Chem. B* **1998**, *102*, 10736-10744 wherein pluronic gels are formed by random hydrophobic interactions) that would not be amendable to current process because the comparison would not produce a definitive result (i.e., a direction with higher height uniformity). In addition, Applicants' claims encompass substrates that likewise cannot possess a first direction that has higher height uniformity than a second direction planar to said substrate. For example, the claims encompass spherical substrates (e.g., see also specification, page 9, lines 29 and 30, "Similarly, substrate 10 may be of any shape"; see also specification, page 21, paragraph 1) that possess tangential planar surfaces that would not foster a comparison of height uniformity because any comparison of said directions would only provide information with regard to the same point on the substrate (i.e., the point at which the plane touches the sphere). Furthermore, Applicants' claims encompass many substrates that cannot be "drawn" into shapes that possesses height uniformity because these materials are either too brittle or would react with other materials at the melting temperature required for fabrication (e.g., see Donald, I. W. "Production, properties and applications of microwire and related products" *J. Mater. Sci.* **1987**, *22*, 2661-2679). Finally, no structural limitations are placed on the "chemical moieties" that are used to form the array either. Thus, virtually an infinite number of chemical moieties are also being claimed wherein no structural features and/or common

structural characteristics are set forth. Consequently, the nature of the invention cannot be fully determined because the invention has not been defined with particularity.

(3 and 5) The state of the prior art and the level of predictability in the art: The level of predictability in the art is low or absent. For example, the methods encompass substrates that do not possess a first direction that has higher height uniformity than a second direction as required by independent claims 28, 37, 38 and 45. For example, the claims encompass the use of substrates with "random" topology (e.g., see Smith, B. G. "Geometrical Shadowing of a Random Rough Surface" IEEE Transactions on Antennas and Propagation 1967, 5, 668-671; see also Bromberg, L. "Properties of Aqueous Solutions and Gels of Poly(ethylene oxide)-b-poly(propylene oxide)-b-poly(ethylene oxide)-g-poly(acrylic acid)" *J. Phys. Chem. B* **1998**, *102*, 10736-10744 wherein pluronic gels are formed by random hydrophobic interactions) that would not be amendable to current process because the comparison would not produce a definitive result (i.e., a direction with higher height uniformity) and thus represent "inoperative" embodiments because the claimed comparison will not lead to a definitive result (i.e., one direction will not be better than the other). In addition, substrates that have been "drawn" using a thin slit, for example, which might reasonably be expected to produce a direction with higher height uniformity does not encompass all substrates. For example, Applicants' claims encompass many substrates that cannot be "drawn" into shapes that possesses height uniformity because these materials are either too brittle or would react with other materials at the melting temperature required for fabrication (e.g., see Donald, I. W.

"Production, properties and applications of microwire and related products" *J. Mater. Sci.* **1987**, *22*, 2661-2679, see especially, page 2665, section 2.1.2.3).

In addition, many of Applicants' claimed substrate shapes would likewise be inoperative. For example, claims encompassing spherical substrates (e.g., see also specification, page 9, lines 29 and 30, "Similarly, substrate 10 may be of any shape"; see also specification, page 21, paragraph 1) that possess tangential planar surfaces would not foster a comparison of height uniformity because any comparison of said directions would only provide information with regard to the same point on the substrate (i.e., the point at which the plane touches the sphere). Thus, no comparative result would be produced.

Finally, there are no known methods that enable the synthesis and/or characterization of the currently claimed chemical moieties (e.g., see Lauf et al., U.S. Patent Application No. 2004/0062911 A1; page 1, paragraph 4, "The preparation of new materials with novel and useful chemical and/or physical properties is <u>at best unpredictable</u> considering current levels of understanding. Consequently, the discovery of new materials depends largely on the ability to synthesize and analyze new compounds. Given approximately 100 elements in the periodic table, which can be used to make compositions consisting of three, four, five, six or more elements, the universe of possible new compounds <u>remains largely unexplored</u>."; see also Newsam, J. M.; Schuth, F. "Combinatorial Approaches as a Component of High-throughput Experimentation (HTE) in Catalysis Research" Comb. Chem. Biotechnol. Bioeng. 1999, 611, 203-216, especially page 210, column 2, paragraphs 2-3 "Applications of HTE [High Throughput

Experimentation] and combinatorial methods to heterogeneous catalysts are substantially different from those used in homogeneous catalysis ... First, we have little basis yet for formal library design, atomic-level active-site structure usually being, at best, poorly characterized. Second, detailed catalysts characterization is difficult. The averaged picture provided by X-ray and neutron scattering or EXAFS usually masks the active-site signatures, and local probes are likely to miss these critical, yet dilute fine details. Third, the optimal performance of a catalysts is a balance between reactor configuration, reaction conditions, and the details of the catalyst itself; a change in one of the three elements requires concomitant adjustment in the two others. Fourth, scale-up of catalyst preparation even from the laboratory scale can be difficult. Firth, many catalysts only attain theri desirable properties after time on stream, catalyst formation and deactivation processes being important in determining performance. Finally, the reaction conditions required for practical testing typically entail elevated temperatures and pressures, and various gas or liquid streams that might be flammable or toxic. Unsurprisingly, therefore, the field of accelerated combinatorial heterogeneous catalysis is still at an early stage of development" as another example of a catalyst library that falls within the scope of Applicants' claimed chemical moieties).

(4) The level of one of ordinary skill: The level of skill required would be high, most likely at the Ph.D. level.

(6-7) The amount of direction provided by the inventor and the existence of working examples: Applicants have not even provided a single working example of the claimed invention. Although Applicants' specification sets forth only one working example of a

substrate with higher height uniformity in one direction than in another (e.g., see specification, page 3, paragraph 2; see also figures 6 and 7 wherein a planar glass substrate that was drawn in the molten state through a thin slot is set forth), it fails to use this substrate in the claimed method for generating an array. That is, Applicants do not even set forth one working example of an array of chemical moieties. Although the specification sets forth several potential species (e.g., biopolymers) and cite several references such as Ser. No. 09/302898 for "Polynucleotide Array Fabrication", there is no evidence that any of these chemical moieties were ever used in accordance with the claimed method.

(8) The quantity of experimentation needed to make or use the invention base on the content of the disclosure: As a result of the broad and unpredictable nature of the invention and the lack of specific guidance from the specification, the Examiner contends that the quantity of experimentation needed to make and or use the invention would be great. Note that there must be sufficient disclosure, either through illustrative examples or terminology, to teach those of ordinary skill how to make and use the invention as broadly as it is claimed. *In re Vaeck*, 947 F.2d 488, 496 & n.23, 20 USPQ2d 1438, 1445 * n.23 (Fed. Cir. 19991). In this case, Applicants have not provided any working examples that would teach this enormous genus that falls within a highly unpredictable art area. Therefore, it is deemed that further research of an unpredictable nature would be necessary to make or use the invention as claimed. Thus, due to the inadequacies of the instant disclosure one of ordinary skill would not have a reasonable expectation of

success and the practice of the full scope of the invention would require undue experimentation.

Claims Rejections - 35 U.S.C. 102

9. Claims 45 are rejected under 35 U.S.C. 102(b) as being anticipated by Cremer et al. (Cremer et al. "Creating spatially addressed Arrays of Planar Supported Fluid Phospholipid Membranes" *J. Am. Chem. Soc.* **1999**, *121*, 8130-8131).

For ***claim 45***, Cremer et al. (see entire document) disclose method for fabricating an array of planar supported fluid phospholipids membranes (e.g., see Cremer et al, page 8130, column 1; see also figures 1 and 2), which anticipates the claimed invention. For example, Cramer et al. disclose **(a)** comparing height uniformity of a first direction and a second direction across a planar surface of a substrate to identify a first direction having higher height uniformity than a second direction, wherein said first and second directions are planar to said substrate (e.g., see figure 4; see also page 8131, column 2; see also figures 1-3). Here, Cremer et al. measure and compare the height of the chemical features along the surface of the planar chip in all directions. For example the height of the square wells that contain lipids is ~ 5 nm higher than the wells that do not contain a lipid bilayer (e.g., see figure 4). In addition, the hydrophobic barriers between each square well was also measured and ranged between 25 μm to 250 μm in thickness (e.g., page 8131, column 2, "Up to now we have experimented with square well plates from 25 μm × 25 μm to 250 μm × 250 μm with

hydrophobic partitions ranging from 25 μm to 250 μm in thickness"). Thus, all heights in every direction along the planar surface were measured and compared, which would include a first and second direction. In addition, Cremer et al. disclose **(b)** placing the different chemical moieties in a row on said planar surface of the substrate lengthwise along the direction having the higher height uniformity so as to provide a row of different chemical moieties that is more closely aligned with the first direction than the second direction (e.g., see figures 2 and 3; see also page 8131, column 2). For example, three different dyes or dye mixtures were placed in the leftmost column, which is more closely aligned in a vertical direction as opposed to a slight more skewed angle. Furthermore, this "vertical" positioning is more closely aligned with a direction that has higher height uniformity than a second "skewed" direction that does not (e.g., see 12/29/05 Office Action, page 4, figures A and B showing principle behind difference in heights along the surface of a substrate between vertically aligned, figure A, and skewed angles, figure B). In addition, Cremer et al. disclose rows that contain a plurality of spatially addressable features containing said different chemical moieties (e.g., see figures 2 and 3 showing different chemical moieties that are spatially addressable).

Claim Rejections - 35 USC § 103

10. Claims 28 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cremer et al. (Cremer et al. "Creating spatially addressed Arrays of Planar Supported Fluid Phospholipid

Membranes" *J. Am. Chem. Soc.* **1999**, *121*, 8130-8131) in view of Lemmo et al. (Lemmo et al. Anal. Chem. **1997**, *69*, 543-551) and Baldeschwieler et al. (WO 95/25116) (Date of Patent is **September 21, 1995**) (2/21/02 IDS, entry 1L).

For ***claim 45***, Cremer et al. teach all the limitations stated in the 35 U.S.C. 102(b) rejection above (incorporated in its entirety herein by reference), which anticipates and, as a result, renders obvious claim 45.

The prior art teachings of Cremer et al. differ from the claimed invention as follows:

For ***claim 28***, Cremer et al. are fails to teach the use of a pulse-jet printer to deposit the different chemical moieties.

However, the combined references of Lemmo et al. and Baldeschwieler et al. teach the following limitations that are deficient in Cremer et al.:

For ***claim 28***, the combined references of Lemmo et al. and Baldeschwieler et al. (see entire documents) teach the use of a pulse-jet printer for the synthesis of combinatorial libraries (e.g., see Lemmo et al., abstract; see also figure 2; see also page 544, column 1, paragraph 2 wherein piezoelectric devices are disclosed; see also Baldeschwieler et al., figure 2; see also page 16, line 25; see also Example 1; see also Applicants' specification, page 13, paragraph 3, which defines pulsejet printers to include piezoelectric devices commonly found in inkjet printers).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to use a pulse jet printer as taught by the combined references of Lemmo et al. and Baldeschwieler et al. to make the spatially addressable

arrays as taught by Cremer et al. because Cremer et al. state that pulsejet printers can be used for this purpose and explicitly cite the Lemmo et al. in support of this position (e.g., see Cremer et al., page 8131, column 2, "Incorporating new deposition technologies such as the chemical inkjet microdispenser should allow very large membrane libraries to be created on experimentally practical time scales"). Furthermore, a person of ordinary skill in the art would have been motivated to use a pulsejet printer to create large libraries on an "experimentally practical time scale" (e.g., see Cremer et al., page 8131, column 2). In addition, Cremer et al. state, "the microdispenser could [also] serve as a convenient method for depositing premixed concentration arrays of three or four component membranes" (e.g., see Cremer et al., page 8131, column 2). Moreover, the pulse jet printer represents a "non contact" method of deposition that will not harm the substrate or contaminate adjacent wells. Finally, a person of ordinary skill in the art would reasonably have expected to be successful because inkjet printers were routinely used for making material libraries.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jon D Epperson whose telephone number is (571) 272-0808. The examiner can normally be reached Monday-Friday from 9:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Paras can be reached on (571) 272-4517. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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Jon D. Epperson, Ph.D.
July 8, 2006

JON EPPERSON, PH.D.
PATENT EXAMINER